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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,290	12/28/2001	Kazunori Yoshino	8350.0663-00	3082

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EXAMINER

LOPEZ, FRANK D

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/029,290	Applicant(s) YOSHINO, KAZUNORI	
	Examiner F. Daniel Lopez	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5, 7, 9, 10, 12-16; and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5, 7, 9, 10, 12-16; and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

Applicant's arguments filed November 30, 2004, have been fully considered but they are not deemed to be persuasive.

Applicant's argues that there is no motivation to combine Yoshimatsu (5,063,742) and Krusche, and disagrees with the statement "the connection between the pilot relief valve and the tank of Yoshimatsu (5,063,742) and Krusche (being) functionally equivalent". Applicant continues by stating that the pressure of the pilot pump of Yoshimatsu (5,063,742) is regulated to a constant pressure by pressure relief valve and is directed to pilot lines 26a and 27a or 26b and 27b, by swing mode control valve 24, and that the purpose of the pilot pump 21 and pressure relief valve 23 is to regulate the pressure in the supply line 22 to a fixed pressure. Applicant continues by stating that the constant pump (25, fig 3) of Krusche supplies fluid to a relief valve jet 196, which in turn regulates the strokes of the variable stroke pumps 3 and 4. Applicant concludes that the clearly divergent functions of Yoshimatsu (5,063,742) and Krusche result in no motivation to combine Yoshimatsu (5,063,742) and Krusche, and that the statement of functional equivalence is incorrect.

Applicant is only partially correct about Krusche. In addition to supplying pilot pressure across the pressure relief valve 196 and restrictor 199 to control displacement of the variable displacement pumps 3 and 4, the pilot pump (25) also supplies a pilot pressure (through line 195) to control valves (e.g. 92, 93, fig 5) to directional control valves (31, 32), just like Yoshimatsu (5,063,742). Also, the pressure relief valve (202) is specifically for limiting the pilot pressure to less than a certain value. Since the pilot pumps of Yoshimatsu (5,063,742) and Krusche perform the same function of supplying pilot pressure to pilot valves for directional control valves, and the pressure relief valves of Yoshimatsu (5,063,742) and Krusche both perform the same function of limiting the pilot pressure to be less than a certain value; the statement of functional equivalence is correct and the rejection is proper.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 1, 4, 15 and 16 are rejected under 35 U.S.C. § 103 as being unpatentable over Yoshimatsu (5,063,742) in view of Krusche and Yoshimatsu (5,062,266).

Yoshimatsu (5,063,742) discloses a fluid control system and method of operating comprising a pressurized fluid source (1a) supplying pressurized fluid through respective ones of a plurality of spool type flow control valves (81, 82, 83, 2), to a plurality of double acting cylinders (see e.g. column 9 line 39-43) and a plurality of fluid driven motors (e.g. 3); a back pressure element (14) associated with a motor return line (13) providing fluid communication between the motor and a tank (15) and with a cylinder return line providing fluid communication between the cylinder and the tank, and influencing a fluid back pressure on fluid discharged from the motor and cylinder; a dedicated flow line configured to provide make up fluid to the motor at a location between the motor and the back pressure element; and a pilot pump (21, shown in fig 1, and schematically connected to pilot valve 24, in fig 3)) provides fluid across a pilot relief valve (23) disposed in a second flow line, connected to tank (15); wherein the fluid source provides fluid across a main relief valve (12, e.g. fig 1) in a first flow line, to the motor return line and dedicated flow line, hereby providing makeup fluid to the motor; but does not disclose that the second flow line is connected to the motor return flow line, in parallel to the first flow line; or that the main relief valve is a combination main relief and bypass valve.

Krusche teaches, for a fluid control system and method of operating comprising a pressurized fluid source (e.g. 3) supplying pressurized fluid to a fluid driven motor (e.g. 109); a motor return line (102), between the motor and a tank; a pilot pump (25) provides fluid across a pilot relief valve (196) disposed in a second flow line (194,200), connected to the tank; that the second flow line is connected to the motor return flow line (see fig 3).

Since the connection between the pilot relief valve and the tank of Yoshimatsu (5,063,742) and Krusche are functionally equivalent; it would have been obvious at the time the invention was made to one having ordinary skill in the art to connect the second flow line of Yoshimatsu (5,063,742) to the motor return flow line, as taught by Krusche, as a matter of engineering expediency. It is understood that the second flow line is connected to the motor return flow line between the relief valve and the tank, but that this would still make the second flow line in parallel with the first flow line.

Yoshimatsu (5,062,266) teaches, for a fluid control system and method of operating comprising a pressurized fluid source (1) supplying pressurized fluid to a fluid driven motor (6); a back pressure element (72) disposed between the motor and a tank (7), and influencing a fluid back pressure on fluid discharged from the motor; a dedicated flow line configured to provide make up fluid to the motor at a location between the motor and the back pressure element; wherein the fluid source provides fluid across a main relief valve (17) to the dedicated flow line; that the main relief valve is a combination main relief and bypass valve (17, in combination with 18), for the purpose of unloading the pressure source, when not needed to provide pressurized fluid (e.g. column 4 line 2-8).

Since Yoshimatsu (5,063,742) and Yoshimatsu (5,062,266) are both from the same field of endeavor, the purpose disclosed by Yoshimatsu (5,062,266) would have been recognized in the pertinent art of Yoshimatsu (5,063,742). It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the main relief valve of Yoshimatsu (5,063,742), or the modified Yoshimatsu (5,063,742) a combination main relief and bypass valve, as taught by Yoshimatsu (5,062,266), for the purpose of unloading the pressure source, when not needed to provide pressurized fluid.

Claims 5, 7, 9, 10, 12-14; and 21 are rejected under 35 U.S.C. § 103 as being unpatentable over Yoshimatsu (5,063,742) in view of Krusche and Yoshimatsu (5,062,266), as applied to claim 4 and 15, respectively, above, and further in view of Chung and a further teaching of Krusche. The modified Yoshimatsu (5,063,742) discloses all of the elements of claims 5, 7, 9, 10, 14, and 21; but does not disclose that the cylinder

return line does not pass across the back pressure element; or that each of the plurality of flow control valves include a pair of meter-in valves and a pair of meter-out valves.

Chung teaches, for a fluid control system and method of operating comprising a pressurized fluid source (P) supplying pressurized fluid to a fluid driven motor (1) and a double acting cylinder (connected to A, B and/or C, e.g. column 1 line 28-34); a back pressure element (3) disposed between the motor and a tank (T), and influencing a fluid back pressure on fluid discharged from the motor; a dedicated flow line (4) configured to provide make up fluid to the motor at a location between the motor and the back pressure element; and a cylinder return line connected between the cylinder and tank; disclose that the cylinder return line does not pass across the back pressure element, for the purpose of preventing undesired pressure loss for the cylinders (e.g. column 2 line 2-4).

Since Yoshimatsu (5,063,742) and Chung are both from the same field of endeavor, the purpose disclosed by Chung would have been recognized in the pertinent art of Yoshimatsu (5,063,742). It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the cylinder return line of Yoshimatsu (5,063,742) not pass across the back pressure element, or the modified Yoshimatsu (5,063,742), as taught by Chung, for the purpose of preventing undesired pressure loss for the cylinders.

Krusche teaches, for a fluid control system comprising a pressurized fluid source (1) supplying pressurized fluid to a fluid driven motor (e.g. 108, 109) through a flow control valve; the equivalence of a spool type flow control valve (128, fig 10) and a flow control valve including include a pair of meter-in valves (118, 119, fig 9) and a pair of meter-out valves (unnumbered, fig 9).

Since the flow control valves of Yoshimatsu (5,063,742) are spool type, and Krusche teaches the equivalence of spool type flow control valves and flow control valves including a pair of meter-in valves and a pair of meter-out valves; it would have been obvious at the time the invention was made to one having ordinary skill in the art to replace the spool type flow control valves of the modified Yoshimatsu (5,063,742)

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with flow control valves which include a pair of meter-in valves and a pair of meter-out valves, as taught by Krusche, as a matter of engineering expediency.

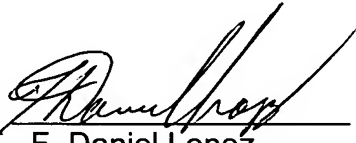
Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (571)-272-4821. The examiner can normally be reached on Monday-Thursday from 6:15 AM -3:45 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on 571-272-4820. The fax number for this group is (703) 872-9306. Any inquiry of a general nature should be directed to the Help Desk, whose telephone number is 1-800-PTO-9199.


F. Daniel Lopez
Primary Examiner
Art Unit 3745
February 18, 2005